

"'I thought,' continues Mr. Kingdon (writing to me), 'and still believe, that I had more of your cases; but the foregoing are those which I can vouch for at present. Two, and I think a third, of Mr. Hutchinson's have come before me; one also of Mr. Wood's.'"

34. *Venous Hemorrhage*.—This subject has been very fully discussed by LANGENBECK in the first part of the *Archiv für Klinische Chirurgie*. The causes of difficulty or impossibility of arresting venous hemorrhage are, adhesion of the vein to the neighboring parts; pressure of the column of blood; and regurgitation of the blood. The first mentioned cause of difficulty is especially observed in trephining and in operations for necrosis; and in operations involving the veins of the neck and upper part of the thorax, as the subclavian, external or internal jugular, and axillary. Death may follow wounds of the external jugular vein, even above the point at which it penetrates the cervical fascia. The division of the axillary vein gives rise to unimportant hemorrhage in comparison with the external jugular, because it is but loosely connected with the fascia, while the external jugular is stretched by the fibres of the platysma myoides. Hemorrhage in wounds of the large veins may take place from the peripheric as well as from the central end. From the former, the blood flows in a steady stream; from the latter, the bleeding occurs during expiration, or during crying or coughing. Gaping incised wounds of the common jugular vein are fatal, unless immediate surgical aid be at hand. In penetrating wounds of this vein, the blood poured into the sheath may act as a compressing agent and close the orifice; but, if the blood escape into the cellular tissue, a troublesome sanguineous tumour is the result. Suppuration, secondary hemorrhage, and pyæmia may also follow punctured wounds of the jugular. Gunshot wounds of the large internal veins, or of the internal jugular, may not give rise to serious bleeding at the time, but are liable to be followed by secondary hemorrhage and thrombus.

Ligature of the corresponding artery is a sure means of arresting hemorrhage from a large vein, as the internal or the external jugular, after compression has been tried and has failed. Hemorrhage from wounds of the external iliac and femoral veins is more troublesome than might be expected from their small size and their distance from the heart. In wounds of the internal jugular, the pressure of the column of blood may be diverted to the vein of the opposite side by compression, in consequence of the free communication through the cranial sinuses; while, in the veins of the lower limb, this cannot be done. The iliac and pleural veins bleed usually from the peripheric end; hence J. Roux has advised ligature of the femoral vein in disarticulation of the thigh. Langenbeck, however, has in six cases observed no hemorrhage from the femoral vein in this operation, although he did not tie the vessel—a proceeding which he considers dangerous.

Dangerous, and even unmanageable venous hemorrhage may be produced by compression of a venous trunk above a wound, by the pressure of a tumour, by obliteration of a vein, or by interference with the pulmonary circulation. In the leg, for instance, venous hemorrhage is not unfrequently produced by the bursting of varicose veins. Hemorrhage from wounded veins, the trunks of which are compressed by tumours, demand ligature of the corresponding artery. Very obstinate also are the capillary venous hemorrhages, dependent on rupture of the small vessels and compression of the venous trunks. Spontaneous hemorrhage from tumours is generally venous or capillary, when it arises from pressure of the veins returning the blood. It occurs most readily in very vascular growths, permeated by enlarged sinuous veins, or constricted at the base by the neighbouring parts. Hemorrhage may occur from internal piles, when they are extruded in defecation and compressed by the sphincter ani; or from polypi of the fauces or of the uterus, when the bloodvessels in them have a cavernous structure. Cirrhosis of the liver sometimes, but very rarely, produces vesical hæmaturia through obstruction of the inferior cava; generally, however, the gradual development of the cirrhosis allows the establishment of a compensatory circulation through the anastomosing veins.

The fact that the venous hemorrhage in great operations varies with the

respiratory act, has led Langenbeck to desire the patient in such cases to breathe deeply; that is, of course, unless he be under the influence of an anæsthetic. But in wounds of the large veins of the neck, deep inspiration must be avoided, on account of the danger of the entrance of air into the veins. In tracheotomy, the hemorrhage from the thyroid veins is arrested by the inspiration, which takes place as soon as the air-passages are opened. Styptics are regarded by Langenbeck as of very little use in obstinate venous hemorrhage; while, in ordinary cases, the bleeding ceases spontaneously. Obstinate bleeding from the smaller veins is best arrested by the actual cautery. In hemorrhage from the larger veins, compression with the finger must be first tried; a slight amount of pressure may be sufficient. When a vein of one of the limbs is cut across, compression of the distal end is generally sufficient; but, if this fail, the proximal end must also be compressed. In wounds of the external or of the common jugular, the compression must be first applied to the central or proximal end, on account of the danger of entrance of air. In hemorrhage from the larger veins, digital compression is only a temporary means, and must be replaced by a bandage. The object of the bandage is to close the wound without impeding the circulation; and for this purpose Langenbeck prefers strips of sticking plaster, where the edges of the wound can be brought together. When the vein lies deep, and the edges of the integument will not come together, he advises that a piece of lint smeared with cerate be laid on the vessel, and that compression be made by filling the wound with charpie. If a ligature must be applied, it is generally sufficient to tie the distal end; but the proximal end must also be tied, if large branches open into it. In the removal of tumours, when it is an object to avoid loss of blood, the vein may be ligatured in two places previous to the operation, and cut through; the ligatures are removed after the operation. Ligature of veins is, however, to be avoided as much as possible, especially in large hospitals, on account of its liability to be followed by thrombus and pyæmia. The vein may again become pervious, by the removal of the thrombus formed in it when ligatured.

On ligature of the arteries in venous hemorrhage, Langenbeck remarks that the dread of inducing gangrene has probably restrained surgeons from having recourse to this proceeding. But, while ligature of a large artery may be followed by capillary anæmia and functional disturbance of the part supplied, which may be gradually removed as the circulation becomes re-established; ligature of a vein is likely to produce venous capillary hyperæmia and serous exudation, and even inflammation of the vessel. Ligature of both the artery and the vein, however, appears less likely to produce mischief than when only one vessel is tied; at least, Langenbeck has in two cases tied both the carotid artery and the common jugular vein, and in neither were there any symptoms of importance referable to disturbance of the cerebral circulation. He refers also to a case in which hemorrhage of the femoral vein was arrested by ligature of the corresponding artery; and to an instance of popliteal aneurism mentioned by Crisp, in which hemorrhage from the wounded popliteal vein ceased when the artery was tied. He is evidently reluctant to tie a vein when such a proceeding can possibly be avoided.—*British Medical Journal*, June 15th, from *Schmidt's Jahrbücher*, Bd. 109.

35. *Treatment of Bubo by Injection.*—Dr. PIZZORNO strongly recommends the following mode of treating bubo, which he has pursued in more than 500 cases with great advantage and no ill effects: When suppuration cannot be prevented, the bubo should be opened sufficiently only to discharge the pus and to admit the point of a small glass syringe. A solution of corrosive sublimate (two grains to three ounces) is then to be thrown in with force two or three times in succession, and after the sac of the abscess is thus well washed out, a little of the solution is still to be left within it, the aperture being then covered with some shreds of lint and compresses moistened in the solution. Pressure is also to be made with a long and broad bandage. Sometimes at the end of the first twenty-four hours suppuration has ceased, and the external application alone has to be continued. When this is not the case the injection has to be repeated every twenty-four hours until the suppuration ceases. Upon an average about seven-